

Purchasing Receipts

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Aging Days	Past Due	Total	Supplier Name	
P0041171	ACI001-VC	2	1	Net 30	M303R0.500	303 Round Bar 0.500" : MATERIAL: AISI 303 SS ROUND BAR AS PER ASTM A582 NOTE: 304/316 NOT ACCEPTABLE receive ft				24	10/2/2018	24		S115939	Stock	10/3/2018	\$ 2.34 / ft	1		\$56.58	Acier Ouellette Inc.	
		3			M303R0.750	303 Round Bar 0.750 : MATERIAL: AISI 303 SS ROUND BAR AS PER ASTM A582 NOTE: 304/316 NOT ACCEPTABLE receive ft				36		36		S115940	Stock	10/3/2018	\$ 5.41 / ft	1		\$195.98	Acier Ouellette Inc.	
		5			M6061T6B1.000X06.000	6061T6 Bar 1.00 X 6.00 : MATERIAL: 6061- T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ- A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ- A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft						36		S115941	Stock	10/3/2018	\$ 28.19 / ft	1		\$1,014.93	Acier Ouellette Inc.	
		6			M6061T6B2.500X01.500	6061-T6 Bar 2.50 X 1.50 : MATERIAL: 6061- T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ- A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ- A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft				12		12		S115942	Stock	10/3/2018	\$ 17.16 / ft	1		\$205.91	Acier Ouellette Inc.	
		7			M6061T6B2.000X02.000	6061-T6 Bar 2.00 X 2.00 : MATERIAL: 6061- T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ- A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ- A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft						12		S115943	Stock	10/3/2018	\$ 17.87 / ft	1		\$214.39	Acier Ouellette Inc.	
		8			M1018R2.500	M1018R2.500 : MATERIAL: AISI 1018- 1025 ROUND BAR M1010S20GA AS PER MIL-S-7097 OR ASTM A108					10		11		S115944	Stock	10/3/2018	\$ 21.52 / ft	1		\$225.97	Acier Ouellette Inc.

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Aging Days	Past Due	Total	Supplier Name	
		10			MT-HRS-R-5.000	Hot Rolled Steel Round Bar 3.000" Dia. : MATERIAL: HOT ROLLED STEEL ROUND BAR ASTM A36 OR ASTM A1011 OR 44W OR ASTM A1018				4	10/4/2018	4		S115945	Stock	10/3/2018	\$ 83.83 / ft	1		\$335.31	Acier Ouellette Inc.	
Total:										134		135									\$1,747.68	

Plex 10/4/2018 11:04 AM dart.Tollis Andrew



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO041171

Supplier: ACI001-VC
Acier Ouellette Inc.
935 Boul. Du Havre
Valleyfield
QC
J6S 5L1 Canada
Phone: 800 667 4248
Fax: 450 377 5696

PO No: PO041171

PO Date: 9/27/18

Due Date: 10/11/18

**Purchase Order
Revision:**

Revision Date:

Ship-To Contact: Lavoie, Chantal
Phone: clavoie@dartaero.com

E-M SEP 27 2018

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground

Pynt Terms: Net 30

Freight Terms:

Special Comments: QUOTE NO. SOU0134446

Items

Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1		M17-4-R0.375		17-4 SS Round Bar .375" : 17-4 PH / S17400 / TYPE 630 SS ROUND BAR PER AMS 5643/ ASTM A564 GRAIN MUST BE ALONG LENGTH OF BAR MINIMUM YIELD TENSILE STRENGTH = 100 KSI MINIMUM ULTIMATE TENSILE STRENGTH = 150 KSI receive ft	Firmed	-	10/15/18	12 ft	0 ft	12 ft	\$5.1733/ft	\$62.08
2 1/1		M303R0.500		303 Round Bar 0.500" : MATERIAL: AISI 303 SS ROUND BAR AS PER ASTM A582 NOTE:304/316 NOT ACCEPTABLE receive ft	Firmed	-	10/4/18	24 ft ✓ 24.17	0 ft	24 ft	\$2.3408/ft	\$56.18 At 18/10/14
3 1/1		M303R0.750		303 Round Bar 0.750" : MATERIAL: AISI 303 SS ROUND BAR AS PER ASTM A582 NOTE:304/316 NOT ACCEPTABLE receive ft	Firmed	-	10/4/18	36 ft ✓ 36.25	0 ft	36 ft	\$5.406388/ft	\$194.63 At 18/10/14
4		M303B1.500X3.500		303 Bar 1.500" X 3.500" : MATERIAL: AISI 303 SS BAR AS PER ASTM A582 NOTE: AISI 304/316 NOT ACCEPTABLE receive ft	Firmed	-	10/15/18	4 ft	0 ft	4 ft	\$328.75/ft	\$1,315.00



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO041171**

Items

Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
5 AT		M6061T6B1.000X06.000		6061T6 Bar 1.00 X 6.00 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft	Firmed	-	10/4/18	36 ft	0 ft	36 ft	\$28.1925/ft	\$1,014.93
6 AT		M6061T6B2.500X01.500		6061-T6 Bar 2.50 X 1.50 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft	Firmed	-	10/4/18	12 ft	0 ft	12 ft	\$17.1595/ft	\$205.91
7 AT		M6061T6B2.000X02.000		6061-T6 Bar 2.00 X 2.00 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft	Firmed	-	10/4/18	12 ft	0 ft	12 ft	\$17.8658/ft	\$214.39
8 AT		M1018R2.500		M1018R2.500 : MATERIAL: AISI 1018-1025 ROUND BAR M1010S20GA AS PER MIL-S-7097 OR ASTM A108	Firmed	-	10/4/18	10 ft	0 ft	10 ft	\$21.521/ft	\$215.21
9		MT-4140QT-R1.750		AISI 4140 Quenched & Tempered Steel Round Bar 1.750" Dia. : AISI 4140 Q&T Round Bar : MAT'L: AISI 4130 QUENCHED & TEMPERED ROUND BAR AS PER ASTM 4140 QT OR ASTM 4142 QT	Firmed	-	10/15/18	12 ft	0 ft	12 ft	\$27.9166/ft	\$335.00



Items

Order Notes

Plex 9/27/18 1:25 PM dart.lavoie.chantal



ACIER OUELLETTE INC.

935, Boul. du Havre
Salaberry de Valleyfield (Québec) J6S 5L1
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

DELIVERY - CLIENT

Copy

CO00112386

Billed to

DART AEROSPACE LTD

1270, ABERDEEN ST.
HAWKESBURY, Ontario, K6A 1K7

Shipped to

1270, ABERDEEN ST.
HAWKESBURY, Ontario, K6A 1K7

Road wrap

Att: CHANTAL LAVOIE Tél.: 613-632-5200

Instruction F-M

Delivery Route 5

Customer N°

CLI0001056

Date

2018/09/27

Delivery date

2018/10/01

Your order N°

PO041171

Processed by

Stephanie Dignard

Salesman

Carrier

OUELLETTE VALLEYFIELD

Credit Terme

Net 30 Days

Product Description	Weight	Qty	UM	PCS NB			Internal Use Only				
				CMD	EXP	B/O	IN	I	S	C	OUT
1 ROUND SS 1/2 303 (R) RSS-12303 2 X 12' R/L Heat: 520R	16.01	24.00	PI_\$CLB		2x12"						
2 ROUND SS 3/4 303 (R) RSS-34303 3 X 12' R/L Heat: 51049	54.07	36.00	PI_\$CLB		3x12"						
3 FLAT ALU 1 X 6 6061-T6 * FAL-16 3 X 12' Heat: SX4180811	253.76	36.00	PI_\$CLB		3x12"						
4 FLAT ALU 1 1/2 X 2 1/2 6061-T6 * FAL-112212 SAW CUT 1 X 12' Heat: SDX472167	52.87	12.00	PI_\$CLB		1x12'						
5 SQUARE ALU 2 6061-T6 * CAL-2 SAW CUT 1 X 12' Heat: F1010046	56.45	12.00	PI_\$CLB		1x12'						
6 ROUND CR 2 1/2 1018 (R) RCR-212	166.90	10.00	PI_\$CLB		1x12'						
					cut 20'						1x8'
					1x10'6" DC						

OKSD

al

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DELIVERY - CLIENT

Copy

CO00112386

Product Description	Qty	Weight	UM	PCS NB				Internal Use Only			
				CMD	EXP	B/O	IN	I	S	C	OUT
SAW CUT 1 X 10' Heat : 41794AG		1.00	UN								

NIR : R-109516-6

Total Weight (Lbs) : 600.06

Conditions :

All sold and delivered materials remain the property of "Acler Ouellette Inc" until payment is made in full, complete and cashed. All lost materials are at the buyer's expense. The warranty offered by "Acler Ouellette Inc." is the same as offered and honored by the manufacturer and his warranty is transferred by "Acler Ouellette Inc." to the client. The buyer hereby accepts to respect the following conditions: Net 30 days from billing date and the buyer accepts to pay administration charges of 2% per month (24% per annum) on all past due amounts over 30 days. Any default in respect with this contract will lead to payment by acceleration and permits to the seller, at his choice to claim for the balance due or the repossession of the goods sold. All claims must be made within five (5) days with this document enclosed. Any merchandise that has been damaged, cut or modified cannot be returned. All goods returned must be with our authorization and are subject to a 25% restocking charge.

Prepared By :	Verified By : 	Delivered By :	Time
---------------	---	----------------	------

Customer's Signature

Date

Y	M	D



Order - Customer

Order - Customer

ACIER OUELLETTE INC.
935, Boul. du Havre
Salaberry de Valleyfield (Québec) J6S 5L1
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

Billed to

DART AEROSPACE LTD

1270, ABERDEEN ST.
HAWKESBURY, Ontario, K6A 1K7

F-M

Shipped to

1270, ABERDEEN ST.
HAWKESBURY, Ontario, K6A 1K7

Att: CHANTAL LAVOIE Tél.: 613-632-5200

Delivery Route 5

Customer N°
Date
Delivery date
Your order N°
Processed by
Salesman
Carrier
Credit Terme

CLI0001056
2018/09/27
2018/10/01
PO041171
Stephanie Dignard
OUELLETTE VALLEYFIELD
Net 30 Days

Product Description	Weight	Qty	UM	PCS NB			Internal Use Only			
				CMD	EXP	B/O	IN	I	S	C
1 ROUND SS 1/2 303 (R) RSS-12303 2 X 12' R/L <i>heat 530R 5727</i>	16.01	24.00	PI_\$CLB	2.00						
2 ROUND SS 3/4 303 (R) RSS-34303 3 X 12' R/L <i>heat 53049 5761</i>	54.07	36.00	PI_\$CLB	3.00						
3 FLAT ALU 1 X 6 6061-T6 * FAL-16 3 X 12' <i>heat SXA18084 2536</i>	253.76	36.00	PI_\$CLB	3.00						
4 FLAT ALU 1 1/2 X 2 1/2 6061-T6 * FAL-112212 SAW CUT 1 X 12' <i>heat SxD172167 2439</i>	52.87	12.00	PI_\$CLB	1.00						
5 SQUARE ALU 2 6061-T6 * CAL-2 SAW CUT 1 X 12' <i>heat F1010046 1785</i>	56.45	12.00	PI_\$CLB	1.00						
6 ROUND CR 2 1/2 1018 (R) RCR-212 SAW CUT 1 X 12' <i>heat 41794 AG 5299</i>	166.90	10.00	PI_\$CLB	1.00						

Total Weight (LBS) : 600.06

NIR : R-109516-6

Conditions :

All sold and delivered materials remain the property of "Acier Ouellette Inc" until payment is made in full, complete and cashed. All lost materials are at the buyer's expense. The warranty offered by "Acier Ouellette Inc." is the same as offered and honored by the manufacturer and his warranty is transferred by "Acier Ouellette Inc." to the client. The buyer hereby accepts to respect the following conditions: Net 30 days from billing date and the buyer accepts to pay administration charges of 2% per month (24% per annum) on all past due amounts over 30 days. Any default in respect with this contract will lead to payment by acceleration and permits to the seller, at his choice to claim for the balance due or the repossession of the goods sold. All claims must be made within five (5) days with this document enclosed. Any merchandise that has been damaged, cut or modified cannot be returned. All goods returned must be with our authorization and are subject to a 25% restocking charge.

Prepared By :

Verified By :

Time

Delivered By :

Customer's Signature

Y M D

247.67

HST

Total (\$CAD)

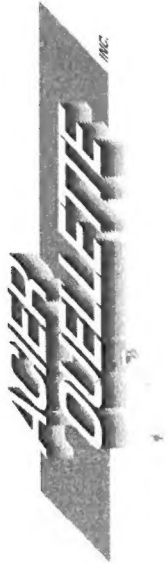
2 152.85

Deposit

0.00

Balance

2 152.85



ACIER OUELLETTE INC.

935, Boul. du Havre
Salaberry de Valleyfield (Québec) J6S 5L1
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

DELIVERY - CLIENT

Copy

CO00112380

Billed to

DART AEROSPACE LTD

1270, ABERDEEN ST.
HAWKESBURY, Ontario, K6A 1K7

Shipped to

1270, ABERDEEN ST.
HAWKESBURY, Ontario, K6A 1K7

Att : CHANTAL LAVOIE Tél.: 613-632-5200

Instruction F-M

Delivery Route 5

Customer N° CLI0001056
Date 2018/09/27
Delivery date **2018/10/03**
Your order N° PO041171
Processed by Stephanie Dignard
Salesman
Carrier OUELLETTE VALLEYFIELD
Credit Terme Net 30 Days

Product Description	Weight	Qty	UM	PCS NB				Internal Use Only			
				CMD	EXP	B/O	IN	I	S	C	OUT
1 ROUND HR 5 * RHR-5 SAW CUT 1 X 4' ***TRANSIT ST-JEROME 2018/10/01*** HEAT: CBI37336	267.04	4.00	PI_\$CLB								
		1.00	UN								

Conditions :

All sold and delivered materials remain the property of "Acier Ouellette Inc." until payment is made in full, complete and cashed. All lost materials are at the buyer's expense. The warranty offered by "Acier Ouellette Inc." is the same as offered and honored by the manufacturer and his warranty is transferred by "Acier Ouellette Inc." to the client. The buyer hereby accepts to respect the following conditions: Net 30 days from billing date and the buyer accepts to pay administration charges of 2% per month (24% per annum) on all past due amounts over 30 days. Any default in respect with this contract will lead to payment by acceleration and permits to the seller, at his choice to claim for the balance due or the repossession of the goods sold. All claims must be made within five (5) days with this document enclosed. Any merchandise that has been damaged, cut or modified cannot be returned. All goods returned must be with our authorization and are subject to a 25% restocking charge.

Total Weight (Lbs) : 267.04

NIR : R-109516-6

Prepared By :	Verified By :	Delivered By :	Date
			18/10/03

Customer's Signature

5427
RSS-12303
S1438
17336
6870 Highway 42 East
Chent, KY 41045-9615
(502) 347-6000

METALLURGICAL TEST REPORT

North American Stainless Canada Inc.
740 Imperial Road North
Guelph, ON N1K1Z3
Canada

Certificate: 371391 3
Customer: 007080 003
Date: 1/15/2018 Page: 1
Steel: 303
Finish: CD
Corrosion:
Your Order: MH6001
NAS Order: IN 0257533 05 Heat Treat Code: 43,147

PRODUCT DESCRIPTION:
Round Bar, Annealed, Cold Draw
UNS 30300, (ASTM A582) 12 IN 10204 3.1, ASTM A484/16
AMS 5640V TYPE 1, Q08-7643 CONDITION A
SOLUTION ANNEAL TEMP 1900F MIN, ASTM F899/12b

REMARKS:
COMPLETE W/REQUIREMENTS OF DVAR 252.225-7009 EU DIRECTIVE
2011/65/EU. ROHS. EAP+AOD+CC. NO WELD REPAIR. MELTED AND MFG
IN USA FREE FROM MERCURY AND LOW MELTING ALLOY CONTAMINATION

Product Id	Size	Weight	Length	Mark	Pieces	Commodity Code
BI9788 9	.5000	1,073	144.00	7	1	

CHEMICAL ANALYSIS CM(Country of Melt) ES(Spain) US(United States) ZA(South Africa) JP(Japan)
Lab Accreditation Bureau, ISO/IEC 17025, Certificate# L2323
Chemical Analysis per ASTM A751/14a

NAS Heat	CH	C	%	CO	%	CR	%	CU	%	MO	%	NI	%	P	%
520R	US	.026	.13	17.09	.35	1.03	.275	.050	8.50	.031					
	S	%	SI	%											
		.3010	.30												

MECHANICAL PROPERTIES

Product Id	1	4	0	1	HB	.2YS	UTS	RA	%	Elong	% 2"
BI9788 9	R	L	191.0	69.04	100.58	41.70	29.90				

Heat: 520R

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical Dept. Mgr. KRIS LARK 1/15/2018

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL AISI 303 SS ROUND BAR
(NOTE: AISI 304/316 NOT ACCEPTABLE)



SPECIFICATION

ASTM A582

PART NUMBER

M303R0.DDD
DIA.

WHERE "D DDD" = DIAMETER IN INCHES

EG. 0.75" ROUND BAR = M303R0.750

RELEASED
R 2010-02-02
MR

B		REFERENCE: DWG. AND SPECS (ZND8-1).		CP	10.01.05
A		REF PART 08.00.00A		DS	01.12.20
REV	NEW ISSUE	DESCRIPTION		BY	DATE
DESIGN		DART AEROSPACE LTD			
DRAWN		HAWKESBURY, ONTARIO, CANADA			
CHECKED		DRAWING NO			REV B
MFG. APPR.		M303R			SHEET 1 OF 1
APPROVED		TITLE			SCALE
DE APPR.		303 ROUND BAR			NTS
DATE	10.01.05				

COPYRIGHT © 2001 BY DART AEROSPACE LTD

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M30360.500
 DATE: 18/10/24

PO / BATCH NO.: P0041171/5115939

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 24.175
 QUANTITY INSPECTED: 24.175
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.500"
 THICKNESS RECEIVED: 0.500"
 SHEET SIZE ORDERED: -
 SHEET SIZE RECEIVED: -

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="radio"/> N <input type="radio"/>	
CORRECT FINISH	Y <input checked="" type="radio"/> N <input type="radio"/>	
CORROSION	Y <input checked="" type="radio"/> N <input type="radio"/>	
CORRECT GRAIN DIRECTION	Y <input checked="" type="radio"/> N <input type="radio"/>	
CORRECT MATERIAL PER M-DRAWING	Y <input checked="" type="radio"/> N <input type="radio"/>	ASTM A582
CORRECT THICKNESS	Y <input checked="" type="radio"/> N <input type="radio"/>	
PHOTO REQUIRED	Y <input checked="" type="radio"/> N <input type="radio"/>	
CORRECT REF # TO LINK CERT	Y <input checked="" type="radio"/> N <input type="radio"/>	HT: 520R
CORRECT MATERIAL IDENTIFICATION	Y <input checked="" type="radio"/> N <input type="radio"/>	
CORRECT M# ON THE MATERIAL	Y <input checked="" type="radio"/> N <input type="radio"/>	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input type="radio"/> N <input checked="" type="radio"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input type="radio"/> N <input checked="" type="radio"/>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u>	SIGNED OFF BY: _____
DATE: <u>18/10/24</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

17303



INSPECTION CERTIFICATE

1000 VIBRIT DIVERS

YOUNG PLANET
 台新24小時電視台
 NO. 1-15, SUITE 1148, ONE BAY L.
 YONGE AND QUEEN CITY T7M3, ONT M2C
 TEL: 416-493-0111 FAX: 416-493-0334

THE UNIVERSITY OF CHICAGO

CONCRETE: Stainless Steel Cold Churn Round Jar 7/11

CERTIFICATE NO: A1711202142

Order No.: 196999977239498

SPECIFICATION (301)

38

ON 37

Supply conditions

DATE OF ISSUE: 2017/11/28

[illegible]

FOR THE FUTURE

Acc. to 150M 1451-13 Contd. A.

See. to ATEN 10467 type 1/02-0-1000 class/0017 only.

THIS INSPECTION CERTIFICATE IS ISSUED ACCORDING TO EN 10165-2.3

10

500.000 mg of polymer solution treatment per. g. of polymer powder.

1. We hereby certify that material described herein has been manufactured and tested with satisfactory results in accordance with requirement of the above material specification.
2. We certify that the material is free from mercury and radiation contamination. Qualification No. of Taiwan Atomic Energy Committee: 136
3. The Above Testing Results Relate Only To The Items Tested.
4. No welding required

JUSTY COMPTON

11-Flat Screws
 12-Flat Screws
 13-Flat Screws
 14-Flat Screws
 15-Flat Screws
 16-Flat Screws
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 84-Flat Screws
 85-Flat Screws
 86-Flat Screws
 87-Flat Screws
 88-Flat Screws
 89-Flat Screws
 90-Flat Screws
 91-Flat Screws
 92-Flat Screws
 93-Flat Screws
 94-Flat Screws
 95-Flat Screws
 96-Flat Screws
 97-Flat Screws
 98-Flat Screws
 99-Flat Screws
 100-Flat Screws

THE NEW YORK PUBLIC LIBRARY

LIS0001:2015 Quality Management System
 ISO/IEC 17025:2005 Laboratory Management System
 APED & AD2000-Medibus V0
 TÜV - LR - AHS Certification Society certification
 ISO14001:2004 Environment Management System
 SOFAS ISO1:2007 & ISO9001 Certification

0626X 1981

CARDIOCAL-25TM E106, E413, E066, E019

道

Quality Assurance International

Heat: 55049

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 303 SS ROUND BAR
(NOTE: AISI 304/316 NOT ACCEPTABLE)

B SPECIFICATION: ASTM A582
PART NUMBER: M303R0.750 DIA.

WHERE "D.DDD" = DIAMETER IN INCHES
EG 0.75" ROUND BAR = M303R0.750

RELEASED
R 2010-02-02
NR

B	REFORMAT DWG. ADD SPECS (ZIN D8-1)	CP	10 01 05
A	REF PAR 08-020A	OS	01 12 20
REV	NEW ISSUE	BY	DATE
DESIGN	DESCRIPTION		
DRAWN			
CHECKED			
MFG APPR			
APPROVED			
DE APPR			
DATE	10.01.05		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO M303R		REV B	
TITLE 303 ROUND BAR		SHEET 1 OF 1	
SCALE NTS		DATE	
COPYRIGHT © 2001 BY DART AEROSPACE LTD			

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M303R0.750

PO / BATCH NO.: P0041171/5115440

DATE: 18/10/04

MATERIAL CERT REC'D: Yes

THICKNESS ORDERED: 0.750"

QUANTITY RECEIVED: 36.25ft

THICKNESS RECEIVED: 0.750"

QUANTITY INSPECTED: 36.25ft

SHEET SIZE ORDERED: -

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: -

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
CORRECT FINISH	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
CORROSION	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>ASTM A582</u>
CORRECT THICKNESS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
PHOTO REQUIRED	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>LT: 53044</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u> DATE: <u>18/10/04</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

2439

FAL-112212

19485

52026



GLOBAL VIETNAM ALUMINIUM CO., LTD

Tel: +84(0)643924954

Fax: +84(0)643924953

Add: My Xuan B1-Conac industrial zone, My Xuan town, Tan Thanh district, Ba Ria-Vung Tau province, Viet Nam

TEST REPORT

Customer part#: FB611.5X2.5X12

Die Number: D00242

Alloy & Temper: 6061 T6511 ✓

Production Description: 1.5 X 2.5 X 12' 6061 T6511 FLATBAR MF (D00242) ✓

Bundle No: 343703M-044

Heat number: SXD172167

Date: 28/11/2017

Applicable Specifications: ASTM B221 STANDARDS

CHEMICAL ANALYSIS: %

Si	Mg	Fe	Cu	Mn	Cr	Zn	Ti	Al	Other		Remark:
									EACH	TOTAL	
0.624	0.990	0.223	0.241	0.020	0.084	0.009	0.018	97.696	<0.05	<0.10	25/11/2017

TENSILE TEST:

Ult. Strength (ksi)	Yield Strength (ksi)	Elongation % LN 2"	Hardness (Webster)	Remark:
42.8	37.4	11.6	17	25/11/2017

We hereby certify that the item listed have been checked and tested in accordance with the specifications noted and have been found to meet all the applicable requirements. Certifications are kept on file for 36 months from the date of purchase and are available for review upon request.

Quality Manager

J101597

24

heat: SXD172167

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR

SPECIFICATION: QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)
OR ASTM B211 OR ASTM B221

PART NUMBER: M6061T6B | T.TTT | X | WW.WWW |
THICK | WIDTH

WHERE "T.TTT" = THICKNESS IN INCHES
"WW.WWW" = WIDTH IN INCHES

E.G. 1.0" X 12.0" BAR = M6061T6B1.000X12.000

RELEASED
R 2009-09-03

B		REMOVE QQ-A-250/11 (OPTION REFORMAT NOT S. AID) ASTM B211/B221 (ZND D7-1)		LP	09.07.13
A		REV		DS	01.06.09
REV		DESCRIPTION		BY	DATE
DESIGN	DS	DART AEROSPACE LTD			
DRAWN	DS	HAWKESBURY, ONTARIO, CANADA			
CHECKED	DS	DRAWING NO		REV. B	
MFG APPR	DS	M6061T6B		SHEET 1 OF 1	
APPROVED	DS	TITLE		SCALE	
DE APPR	DS	6061-T6 BAR		NTS	
DATE	09.07.13				

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MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M6061 T6 B2.500 x 0.500

PO / BATCH NO.: P0041171 / 5115942

DATE: 18/10/24

MATERIAL CERT REC'D: Yes

THICKNESS ORDERED: 1.500"

QUANTITY RECEIVED: 12ft

THICKNESS RECEIVED: 1.500"

QUANTITY INSPECTED: 12ft

SHEET SIZE ORDERED: —

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	(N)	
CORRECT FINISH	(Y)	N	
CORROSION	Y	(N)	
CORRECT GRAIN DIRECTION	(Y)	N	
CORRECT MATERIAL PER M-DRAWING	(Y)	N	ASTM B221
CORRECT THICKNESS	(Y)	N	
PHOTO REQUIRED	Y	(N)	
CORRECT REF # TO LINK CERT	(Y)	N	HT: 5XD172167
CORRECT MATERIAL IDENTIFICATION	(Y)	N	
CORRECT M# ON THE MATERIAL	(Y)	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	(N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	(N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AA</u>	SIGNED OFF BY: _____
DATE: <u>18/10/24</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

2536

FAL-16

52179

CA-50864

16671

Global Vietnam
Aluminium Co., Ltd

GLOBAL VIETNAM ALUMINIUM COMPANY LIMITED

Address: MY XUAN B1-CONAC INDUSTRIAL ZONE, MY XUAN WARD, PHU MY TOWN,
BA RIA-VUNG TAU PROVINCE, VIETNAM
Tel: +84(0)643924954
Fax: +84(0)643924953

MILL TEST CERTIFICATE

Date: July 22nd, 2018

PO number: P-18239
Shipping Ref No.: 18-1749
LC No.: DC HMN812691
Date of issue: July 18, 2018
Item Code: 1062500
Die Number: D00128
Alloy & Temper: 6061-T6
Production Description: ALUMINIUM EXTRUDED PROFILES
Flat Bar 1" x 6" x 144" 6061-T6 D00128
Length (inch): 144
Bundle number: P-18239-216
Heat Number: SxA180811
Date: 03/07/2018
Applicable Specifications: ASTM B221 STANDARDS

CHEMICAL ANALYSIS: %

Si	Mg	Fe	Cu	Mn	Cr	Zn	Ti	Al	Other		Remark:
									EACH	TOTAL	
0.653	0.988	0.218	0.242	0.015	0.056	0.012	0.021	97.687	<0.05	<0.10	30/06/2018

MECHANICAL ANALYSIS:

Ult. Strength (ksi)	Yield Strength (ksi)	Elongation % LN 2"	Remark:
41.79	36.55	10.8	30/06/2018

All profiles, showing material shipped match aluminium alloy as per standard, with chemical analysis to match aluminium alloy standard.

We hereby certify that the item listed have been checked and tested in accordance with the specifications noted and have been found to meet all the applicable requirements. Certifications are kept on file for 36 months from the date of purchase and are available for review upon request, referring to ASTM and the PO number.

Quality Manager



TRUNG TÂM KIỂM NGHIỆM CÔNG TY
TNHH NHÔM TOÀN CẦU VIỆT NAM
GLOBAL VIETNAM ALUMINIUM
CO., LTD TESTING CENTER

heat: SxA180811

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR

SPECIFICATION: QQ-A-225/B OR AMS-QQ-A-225/B (OR AMS 4117/4128/4115/4116)
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)
OR ASTM B211 OR ASTM B221

PART NUMBER: M6061T6B | T.TTT | X | WWW.WWWW |
THICK | WIDTH

WHERE "T.TTT" = THICKNESS IN INCHES
"WWW.WWWW" = WIDTH IN INCHES

E.G. 1.0" X 12.0" BAR = M6061T6B1 000X12 000

RELEASED
2009-05-03

B		REMOVE OLD EDITION INFORMATION FROM THIS ADD ASTM B211/B221 (24 27-1)		DATE	09 07 13
A		NEW ISSUE		DS	01 06 08
REV		DESCRIPTION		BY	DATE
DESIGN	DS	DART AEROSPACE LTD			
DRAWN		HAWKESBURY ONTARIO CANADA			
CHECKED		DRAWING NO.		REV. B	
MFG APPR		M6061T6B		SHEET 1 OF 1	
APPROVED		TITLE		SCALE	
DE APPR		6061-T6 BAR		NTS	
DATE	09.07.13	COPYRIGHT © 2001 BY DART AEROSPACE LTD			

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M6061 T6 B1.000 X 0.6.020
 DATE: 18/10/04

PO / BATCH NO.: P0041171/5115941

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 36ft
 QUANTITY INSPECTED: 36ft
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 1.000"
 THICKNESS RECEIVED: 1.000"
 SHEET SIZE ORDERED: —
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	
CORROSION	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	ASTM B221
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	
PHOTO REQUIRED	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	HT: SXA 180811
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u>	SIGNED OFF BY: _____
DATE: <u>18/10/04</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

#1785

TRA-2320

CA-2

CLINE

MILL TEST

ACIER OUELLETTE

50215

BILL TO	ALUMINUM (QUEBEC) INC.	CERT CODE:	1	DIE NUMBER	S 3132	DATE OF SHIPMENT	Mar/05/2018
SHIP TO	ALUMINUM (QUEBEC) INC.	CUSTOMER PO	109858	ALLOY	6061	SALESMAN	HOUSE ACCOUNTS
SO DESCRIPTION	2" SQ BAR	CUSTOMER PART NUMBER	DT03132	TEMPER	T6	HOUSE ACCOUNTS	
				PART DESCRIPTION	2" SQ BAR		

ORDER NO. 214883

- 1

MANIFEST NO.

387045

MADE IN CANADA

CERTIFICATION
MILL TEST ASTM B221-14**Mechanical Properties**

Lot	Alloy	Test Date	Ultimate Tensile Strength (KSI)	Yield Strength (KSI)	Percent Elongation	Hardness Rockwell F	Conductivity
A.11	6061	Feb/26/2018	44.30	41.90	9.70	88.2,88.4,88.9	

Chemical Composition

Cast Number	Lot	Alloy	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Ga	V	B	Zr	Pb	Sn	Sr	Co	Al	Other
F1010046	A.11	6061	0.63	0.16	0.21	0.01	0.85	0.07	0	0.01	0.01	0	0	0	0	0	0	0	0	0	0

We certify that the following extrusions have been quality inspected/tested and conforms to required dimensional and temper specifications.

T. Mohabir

Tulsiram Mohabir
Quality Control Manager

Heat F1010046

1 - CUSTOMER COPY

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 6061-T6 M651/T6510/T6511/T62 ALUMINUM BAR
 SPECIFICATION: Q13225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
 OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)
 OR ASTM B211 OR AS IM B221

PART NUMBER: M6061T68 T.TTT X WW.WWW
 THICK WIDTH

WHERE "T.TTT" = THICKNESS IN INCHES
 "WW.WWW" = WIDTH IN INCHES

E.G. 1.0" X 12.0" BAR = M6061T681 000X12.000

RELEASED
 2009-09-03

B		REMOVE QQ-A-250/11 OPTION REFORMAT NOTE'S AND ASTM B211/B221 (ZM D7-1)		09/07/13
A		NEW ISSUE		DS 01 06 08
REV		DESCRIPTION		RY DATE
DESIGN	DS	DART AEROSPACE LTD		
DRAWN	DS	HARVEY BOURN ONTARIO CANADA		
CHECKED	DS	DRAWING NO		
MFG APPR	DS	M6061T68		
APPROVED	DS	TITLE		
DE APPR	DS	6061-T6 BAR		
DATE	09.07.13	SHEET 1 OF 1		
		SCALE		
		NTS		
COPYRIGHT © 2001 BY DART AEROSPACE LTD				

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: ML6061 T6 B-2.000x2.000
 DATE: 18/10/04

PO / BATCH NO.: P0041171 / S115943

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 12ft
 QUANTITY INSPECTED: 12ft
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 2.000"
 THICKNESS RECEIVED: 2.000"
 SHEET SIZE ORDERED: —
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	(N)	
CORRECT FINISH	(Y)	N	
CORROSION	Y	(N)	
CORRECT GRAIN DIRECTION	(Y)	N	
CORRECT MATERIAL PER M-DRAWING	(Y)	N	ASTM B221
CORRECT THICKNESS	(Y)	N	
PHOTO REQUIRED	Y	(N)	
CORRECT REF # TO LINK CERT	(Y)	N	M7.F/010046
CORRECT MATERIAL IDENTIFICATION	(Y)	N	
CORRECT M# ON THE MATERIAL	(Y)	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	(N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	(N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u> DATE: <u>18/10/04</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

#5299

RCR-212-V

TRA-1682



ARANA Y LUPARDO, 2
48490 UGAO-MIRAVALLS/VIZCAYA (SPAIN)
Tfno.: 946480211
Fax: 946480128
Email: calpradera@calibradospradera.es
www.calibradospradera.es

49619

3

CERTIFICADO DE CALIDAD/QUALITY REPORT

De acuerdo a /Made according to:

EN 10204/DIN 50049

3.1

Nº CERTIFICADO / CERTIFICATE NR.: 49530

ALBARAN 49530 Delivery Note Nr.	CLIENTE LES ACIERS TRANSBEC (1997) LTÉE CUSTOMER
------------------------------------	---

Norma : EN 10277

Productos Calibrados de acero. Condiciones técnicas de suministro.

Norm :

Bright steel products. Technical delivery conditions.

PRODUCTO SOLICITADO / PRODUCT ACCORDING ASTM A108

PRODUCTO	THICKNESS	WIDTH	LENGTH	WEIGHT	MARKING
MN-47094	1018 RED. ESTIRADO 44,45 (1 3/4")	636	-0,076	916605	44,45
PAJ-48097	1018 RED. ESTIRADO 47,63 (1 7/8")	428	-0,076	915583	47,63
OU-48310	1018 RED. ESTIRADO 63,50 (2 1/2") RCR 212	922	-0,076	917124	63,50
MJP-48227	1018 RED. ESTIRADO 38,10 (1 1/2")	1.746	-0,051	916952	38,10
PAJ-48097	1018 RED. ESTIRADO 50,80 (2")	890	-0,076	916042	50,80
PAJ-48097	1018 RED. TORNEADO 101,6 (4")	1.252	-0,102	916872	101,60
PAR-48569	1018 RED. ESTIRADO 50,80 (2")	990	-0,076	140567	50,80
PAR-48569	1018 RED. TORNEADO 76,20 (3")	1.104	-0,102	140570	76,20
PAJ-48393	1018 RED. ESTIRADO 50,80 (2")	2.874	-0,076	140585	50,80
CA-47927	1018 RED. ESTIRADO 38,10 (1 1/2")	1.054	-0,051	140574	38,10
CA-47927	1018 RED. TORNEADO 76,20 (3")	1.114	-0,102	140575	76,20
AQM-48463	1018 RED. ESTIRADO 38,10 (1 1/2")	1.054	-0,051	140589	38,10
AQM-48463	1018 RED. ESTIRADO 50,80 (2")	1.082	-0,076	140591	50,80
SM-48509	1018 RED. ESTIRADO 50,80 (2")	1.084	-0,076	140596	50,80
SM-48509	1018 RED. ESTIRADO 57,15 (2 1/4")	1.040	-0,076	916835	57,15
OU-48343	1018 RED. ESTIRADO 63,50 (2 1/2") RCR 212	920	-0,076	917124	63,50
PAR-48735	1018 RED. ESTIRADO 63,50 (2 1/2")	770	-0,076	917124	63,50
PAR-48735	1018 RED. ESTIRADO 38,10 (1 1/2")	1.054	-0,051	140944	38,10
PAJ-48736	1018 RED. ESTIRADO 38,10 (1 1/2")	1.054	-0,051	140957	38,10
PAJ-48736	1018 RED. ESTIRADO 63,50 (2 1/2")	1.050	-0,076	917026	63,50
PAJ-48736	1018 RED. TORNEADO 101,6 (4")	1.252	-0,102	916872	101,60
PAR-48735	1045 RED. ESTIRADO 50,80 (2")	1.054	-0,102	140964	50,80

Composición química de la colada / Chemical Analysis of Heat

MEDIDA	OF	COLADA	%	%	%	%	%	%	%	%	%	%
Measurement		Cast Nr.	C	Cr	Cu	Mn	Mo	N	Ni	P	S	Si
44.45	0.00	916605	41341 IS	0.170	0.000	0.000	0.650	0.000	0.000	0.013	0.025	0.310
47.63	0.00	915583	39654 A	0.170	0.000	0.000	0.744	0.000	0.000	0.026	0.026	0.179
63.50	0.00	917124	41794 AG	0.174	0.000	0.152	0.796	0.000	0.005	0.000	0.009	0.213
38.10	0.00	916952	41747 AG	0.177	0.000	0.000	0.787	0.000	0.000	0.013	0.022	0.201
50.80	0.00	916042	40014 IS	0.160	0.000	0.000	0.710	0.000	0.000	0.011	0.005	0.340
101.60	0.00	916872	41627	0.160	0.000	0.190	0.810	0.000	0.000	0.017	0.015	0.210
50.80	0.00	140567	42169 AG	0.161	0.000	0.099	0.781	0.000	0.004	0.000	0.009	0.026
76.20	0.00	140570	42108	0.180	0.000	0.230	0.780	0.000	0.000	0.000	0.015	0.019
50.80	0.00	140585	42169 AG	0.161	0.000	0.099	0.781	0.000	0.004	0.000	0.009	0.026
38.10	0.00	140574	41965 AG	0.173	0.000	0.104	0.787	0.000	0.004	0.000	0.008	0.022
76.20	0.00	140575	42108	0.180	0.000	0.230	0.780	0.000	0.000	0.000	0.015	0.019
38.10	0.00	140589	41965 AG	0.173	0.000	0.104	0.787	0.000	0.004	0.000	0.008	0.022
50.80	0.00	140591	42169 AG	0.161	0.000	0.099	0.781	0.000	0.004	0.000	0.009	0.026
50.80	0.00	140596	42169 AG	0.161	0.000	0.099	0.781	0.000	0.004	0.000	0.009	0.026
57.15	0.00	916835	41599 AG	0.173	0.000	0.132	0.817	0.000	0.003	0.000	0.010	0.022
63.50	0.00	917124	41794 AG	0.174	0.000	0.152	0.796	0.000	0.005	0.000	0.009	0.026

Heat: 41794 AG



ARANA Y LUPARDO, 2
48490 UGAO-MIRAVALLS/VIZCAYA (SPAIN)
Tfno.: 946480211
Fax: 946480128
Email: calpradera@calibradospradera.es
www.calibradospradera.es

CERTIFICADO DE CALIDAD/QUALITY REPORT

De acuerdo a /Made according to:

EN 10204/DIN 50049

3.1

Nº CERTIFICADO / CERTIFICATE NR.: 49530

ALBARAN 49530
Delivery Note Nr.

CLIENTE LES ACIERS TRANSBEC (1997) LTÉE
CUSTOMER

Norma : EN 10277

Productos Calibrados de acero. Condiciones técnicas de suministro.

Norm :

Bright steel products. Technical delivery conditions.

				% C	% Cr	% Cu	% Mn	% Mo	% N	% Ni	% P	% S	% Si
63,50	0,00	917124	41794 AG	0,174	0,000	0,152	0,796	0,000	0,005	0,000	0,009	0,026	0,213
38,10	0,00	140944	41965 AG	0,173	0,000	0,104	0,787	0,000	0,004	0,000	0,008	0,022	0,192
38,10	0,00	140957	41965 AG	0,173	0,000	0,104	0,787	0,000	0,004	0,000	0,008	0,022	0,192
63,50	0,00	917026	41804 IS	0,170	0,000	0,000	0,650	0,000	0,000	0,000	0,013	0,025	0,310
101,60	0,00	916872	41627	0,160	0,000	0,190	0,810	0,000	0,000	0,000	0,017	0,015	0,210
50,80	0,00	140964	41922 AG	0,451	0,093	0,000	0,665	0,017	0,000	0,090	0,010	0,029	0,209

Características mecánicas / Mechanical properties

MEDIDA Measurement	OF	COLADA Cast Nr.	Resistencia Tens. strength N/mm ²	Límite elástico Yield point 0,2% N/mm ²	Alargamiento Elongation Lo=50 mm.	Dureza HB Hardness HB
44,45		916605	41341 IS	0,00	0,00	192,00
47,63		915583	39654 A	470,40	331,24	32,00
63,50		917124	41794 AG	467,00	0,00	0,00
38,10		916952	41747 AG	459,00	0,00	0,00
50,80		916042	40014 IS	0,00	0,00	155,00
101,60		916872	41627	478,00	306,00	33,20
50,80		140567	42169 AG	450,00	0,00	0,00
76,20		140570	42108	485,00	302,00	34,20
50,80		140585	42169 AG	450,00	0,00	0,00
38,10		140574	41965 AG	462,00	0,00	0,00
76,20		140575	42108	485,00	302,00	34,20
38,10		140589	41965 AG	462,00	0,00	0,00
50,80		140591	42169 AG	450,00	0,00	0,00
50,80		140596	42169 AG	450,00	0,00	0,00
57,15		916835	41599 AG	457,00	0,00	0,00
63,50		917124	41794 AG	467,00	0,00	0,00
63,50		917124	41794 AG	467,00	0,00	0,00
38,10		140944	41965 AG	462,00	0,00	0,00
38,10		140957	41965 AG	462,00	0,00	0,00
63,50		917026	41804 IS	0,00	0,00	147,00
101,60		916872	41627	478,00	306,00	33,20
50,80		140964	41922 AG	695,00	0,00	0,00

Calidad Superficial

DESCRIPCIÓN Description	OF	Clase EN 10277-1

Observaciones: BARRAS DE ACERO ESTIRADAS / TORNEADAS EN FRÍO SIN ALEAR



ARANA Y LUPARDO, 2
48490 UGAO-MIRAVALLS/VIZCAYA (SPAIN)
Tfno.: 946480211
Fax: 946480128
Email: calpradera@calibradospradera.es
www.calibradospradera.es

CERTIFICADO DE CALIDAD/QUALITY REPORT

De acuerdo a /Made according to:

EN 10204/DIN 50049

3.1

Nº CERTIFICADO / CERTIFICATE NR.: 49530

ALBARAN 49530 Delivery Note Nr.	CLIENTE LES ACIERS TRANSBEC (1997) LTÉE CUSTOMER
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Norma : EN 10277

Productos Calibrados de acero. Condiciones técnicas de suministro.

Norm :

Bright steel products. Technical delivery conditions.

DEPARTAMENTO DE CALIDAD: Certifica que el mencionado producto cumple con las especificaciones del pedido.

QUALITY DEPARTMENT: Certify that the product fulfils the order specifications.

Fecha/Date: 08/11/2017

Firmado: Susana Fernández
Directora de Calidad



Sistema de
Gestión de
Calidad

www.tovr.com
02 19000900

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 1018-1025 ROUND BAR

SPECIFICATION: MIL-S-7097 OR ASTM A108

PART NUMBER: M1018-R D.D.D. WHERE D DIA = DIAMETER IN INCHES

EG. 7/8" ROUND BAR = M1018-R0.875

TOLERANCES:

PER ASTM A108 AS FOLLOWS:

SIZE TOLERANCE
UP TO 1.5" INCL. +0.000/-0.002
OVER 1.5" TO 2.5" INCL. +0.000/-0.003
OVER 2.5" TO 4.0" INCL. +0.000/-0.004
OVER 4.0" TO 6.0" INCL. +0.000/-0.005
OVER 6.0" TO 8.0" INCL. +0.000/-0.006

RELEASED
2012-09-24

B	REFORMAT	ADD ASTM A108	ADD TOLERANCES	CP	12.09.05
A	NEW ISSUE		DS	01.06.12	
REV			BY	DATE	
DESIGN	DS				
DRAWN	CP				
CHECKED	CP				
MFG. APPR.	CP				
APPROVED	CP				
DE APPR.	CP				
DATE	12.09.05				
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA					
DRAWING NO. M1018-R					
SHEET 1 OF 1					
SCALE					
1018-1025 ROUND BAR					
NTS					
COPYRIGHT © 2001 BY DART AEROSPACE LTD.					

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M1018R2.500
 DATE: 18/10/04

PO / BATCH NO.: P004471/5115944

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 10.5Lr
 QUANTITY INSPECTED: 10.5Lr
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 2.500"
 THICKNESS RECEIVED: 2.500"
 SHEET SIZE ORDERED: -
 SHEET SIZE RECEIVED: -

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<input checked="" type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> Y	N	
CORROSION	Y	<input checked="" type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y	N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y	N	ASTM A108
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y	N	
PHOTO REQUIRED	Y	<input checked="" type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y	N	MT: 41794 AG
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y	N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<input checked="" type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<input checked="" type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u> DATE: <u>18/10/04</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

Certified Material Test Report

Cert #: 274378	Mill Order: 1719597	Heat #: CB137336	Issued: 10/4/2017 10:17:46
Work Order: 241613	Sales Order: 186568-1	Customer:	PO #: 115611-5
Load #: 280182	Reference #:	Reference Desc:	End Use:
Size: 5"	Shape: Round	Grade: A572 GR50	Length: 20' 2"
Grain Practice: AI Fine Grain (5-8) per ASTM A29	Reduction Ratio: 7.1 to 1	Disposition: Rolled Prime	

Ladle Chemistry Analysis (ASTM A29)

C	Mn	P	S	Si	Al	Cu	Ni	Cr	Mo	Sn	N	V	Cb	B	Ca	W	Ti	DI
0.19	1.33	0.010	0.010	0.21	0.023	0.20	0.22	0.16	0.02	0.008	0.0132	0.081	0.001	0.0002	0.0016		0.001	1.27
Pb	Co	As	Sb	Zr	Bi	H(ppm)	O(ppm)	Ceq	J-Factor									
0.001								0.49										

Product Check Analysis (ASTM A29)

C	Mn	P	S	Si	Al	Cu	Ni	Cr	Mo	Sn	N	V	Cb	Ti	B	Ca	O
Front																	
Back																	

Jominy (ASTM A255)

	J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J12	J14	J16	J18	J20	J24	J28	J32
Calc'd Standard	1.5	3	5	7	9	11	13	15	20	25	30	35	40	45	50			
Calc'd Metric																		
Front																		
Back																		

Microcleanliness (ASTM E45)

Method A								Method C		Method E	
AT	AH	BT	BH	CT	CH	DT	DH	S	O	SAM "B"	SAM "D"

Microcleanliness (DIN 50602)

K			M	
S	O	Tot	S	Tot

Decarb

Depth	% of Diameter
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Grainsize

Austenitic	Ferritic
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Macrostructure (ASTM E381)

S	R	C
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Magnetic Particle Inspection

Frequency	Severity
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Mechanical Properties (ASTM A370)

Tensile Properties					Hardness (BHN)	
Tensile Strength	0.2% Yield Strength	% Elong (2")	% ROA	0.35% EUL Yield Strength	(MR)	(Surf)
101,700 psi	75,300 psi	23.9	50.2		204	
					202	

Steel Dynamics - Engineered Bar Products has a quality system in place which has been certified ISO 9001:2008 compliant, including PED certification.

Comments/Specs

Condition: As-Rolled, Hot-Rolled

I hereby certify that the content of this report is correct and accurate, and that all tests and operations performed on this material were in compliance with applicable material specifications and purchaser designated requirements.

Jason Sawa - Rolling Mill Metallurgist

Any alteration to this report voids Steel Dynamic's warranting of results. No weld repair has been performed on this material. This material is not radioactive and has not been exposed to radioactivity while under the control of Steel Dynamics. This material has not been exposed to mercury while under the control of Steel Dynamics. Unless otherwise noted, this material was melted, continually cast, and rolled in the USA; w/ all testing performed by Steel Dynamics.

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-HRS-R-5.000
 DATE: 18/10/04

PO / BATCH NO.: P004471/5115945

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 44
 QUANTITY INSPECTED: 44
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 5.000"
 THICKNESS RECEIVED: 5.000"
 SHEET SIZE ORDERED: -
 SHEET SIZE RECEIVED: -

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
CORROSION	Y <input checked="" type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	ASTM A29 (see PO)
CORRECT THICKNESS	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
PHOTO REQUIRED	Y <input checked="" type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	MT: CB137336
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u>	SIGNED OFF BY: _____
DATE: <u>18/10/04</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in